

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

C-CATION TECHNOLOGIES, LLC,

v.

TIME WARNER CABLE, INC., et al.

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Case No. 2:14-CV-0059-JRG-RSP

**CLAIM CONSTRUCTION
MEMORANDUM AND ORDER**

C-Cation Technologies, LLC (“C-Cation”) asserts U.S. Patent No. 5,563,883 (herein after the “‘883 patent”)¹ against Time Warner Cable, Inc., Time Warner Cable Enterprises LLC, Time Warner Cable Texas LLC, ARRIS Group, Inc., Cisco Systems, Inc., and Casa Systems, Inc. (collectively “Defendants”). On February 18, 2015, the Court held a hearing to determine the proper construction of the disputed claim terms in the ‘883 patent. After considering the arguments made by the parties at the hearing and in the parties’ claim construction briefing and charts (Dkt. Nos. 80, 83, 85 and 87), the Court issues this Claim Construction Memorandum and Order.

BACKGROUND

The ‘883 patent is entitled “DYNAMIC CHANNEL MANAGEMENT AND SIGNALLING METHOD AND APPARATUS” and is based upon an application filed July 18, 1994. Claims 1, 3 and 4 are asserted in the litigation. The parties present multiple claim disputes. With regard to four of the claim disputes, Defendants assert the disputed term is indefinite under 35 USC § 112, ¶ 2. Some of the disputed claim terms have been previously construed in a claim construction order issued by this Court in *C-Cation Technologies, LLC v.*

¹ References to the ‘883 patent will be made in the format Col:Line

Comcast Corp., et al., case no. 2:11-cv-30-JRG-RSP, Dkt. 222, July 3, 2013 (hereinafter “*Cation v. Comcast Order*”).

The ‘883 patent generally relates to the field of “two-way multi-media communication on a shared transmission media such as coaxial cable-TV network, and more specifically to methods and apparatus for signalling channel management and protocol.” 1:6-11. The Background of the Invention describes the prior art as including a central controller, a shared transmission media and a plurality of remote terminals dispersed geographically. Communication bandwidth is divided into traffic-bearing channels and signalling channels that utilize signalling protocols to resolve contention for access. 1:15-32. The ‘883 Patent generally states that the objects of the disclosed invention relate to improvements in the signalling channel process. 2:35-62. One independent claim is asserted, method claim 1. Claim 1 recites a variety of steps for accomplishing the allocation and assignment of the signalling data channels between the central controller and remote terminals and the assignment of the remote terminals to a signalling data channel. 14:25-53.

APPLICABLE LAW

A. Claim Construction

“It is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the patentee is entitled the right to exclude.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). To determine the meaning of the claims, courts start by considering the intrinsic evidence. *See id.* at 1313. *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 861 (Fed. Cir. 2004); *Bell Atl. Network Servs., Inc. v. Covad Commc’ns Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). The intrinsic evidence includes the claims

themselves, the specification, and the prosecution history. *See Phillips*, 415 F.3d at 1314; *C.R. Bard, Inc.*, 388 F.3d at 861. Courts give claim terms their ordinary and accustomed meaning as understood by one of ordinary skill in the art at the time of the invention in the context of the entire patent. *Phillips*, 415 F.3d at 1312–13; *Alloc, Inc. v. Int’l Trade Comm’n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003).

The claims themselves provide substantial guidance in determining the meaning of particular claim terms. *Phillips*, 415 F.3d at 1314. First, a term’s context in the asserted claim can be very instructive. *Id.* Other asserted or unasserted claims can also aid in determining the claim’s meaning because claim terms are typically used consistently throughout the patent. *Id.* Differences among the claim terms can also assist in understanding a term’s meaning. *Id.* For example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include the limitation. *Id.* at 1314–15.

“[C]laims ‘must be read in view of the specification, of which they are a part.’” *Id.* (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc)). “[T]he specification ‘is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.’” *Id.* (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)); *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). This is true because a patentee may define his own terms, give a claim term a different meaning than the term would otherwise possess, or disclaim or disavow the claim scope. *Phillips*, 415 F.3d at 1316. In these situations, the inventor’s lexicography governs. *Id.* The specification may also resolve ambiguous claim terms “where the ordinary and accustomed meaning of the words used in the claims lack sufficient clarity to permit the scope of the claim to be ascertained from the words alone.” *Teleflex, Inc.*, 299 F.3d at

1325. But, “[a]lthough the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims.” *Comark Commc’ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (quoting *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988)); *see also Phillips*, 415 F.3d at 1323. The prosecution history is another tool to supply the proper context for claim construction because a patent applicant may also define a term in prosecuting the patent. *Home Diagnostics, Inc., v. Lifescan, Inc.*, 381 F.3d 1352, 1356 (Fed. Cir. 2004) (“As in the case of the specification, a patent applicant may define a term in prosecuting a patent.”).

Although extrinsic evidence can be useful, it is “less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Phillips*, 415 F.3d at 1317 (quoting *C.R. Bard, Inc.*, 388 F.3d at 862). Technical dictionaries and treatises may help a court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but technical dictionaries and treatises may provide definitions that are too broad or may not be indicative of how the term is used in the patent. *Id.* at 1318. Similarly, expert testimony may aid a court in understanding the underlying technology and determining the particular meaning of a term in the pertinent field, but an expert’s conclusory, unsupported assertions as to a term’s definition are entirely unhelpful to a court. *Id.* Generally, extrinsic evidence is “less reliable than the patent and its prosecution history in determining how to read claim terms.” *Id.*

B. Claim Indefiniteness

Patent claims must particularly point out and distinctly claim the subject matter regarded as the invention. 35 U.S.C. § 112, ¶ 2. Whether a claim meets this definiteness requirement is a

matter of law. *Young v. Lumenis, Inc.*, 492 F.3d 1336, 1344 (Fed. Cir. 2007). A party challenging the definiteness of a claim must show it is invalid by clear and convincing evidence. *Id.* at 1345. “A determination of claim indefiniteness is a legal conclusion that is drawn from the court’s performance of its duty as the construer of patent claims. *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1347 (Fed. Cir. 2005) (citations and internal quotation marks omitted), abrogated on other grounds by *Nautilus v. Biosig Instruments, Inc.*, 134 S. Ct. 2120 (2014).

The definiteness standard of 35 U.S.C. § 112 ¶2 requires that:

a patent’s claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty. The definiteness requirement, so understood, mandates clarity, while recognizing that absolute precision is unattainable. The standard we adopt accords with opinions of this Court stating that “the certainty which the law requires in patents is not greater than is reasonable, having regard to their subject-matter.

Nautilus, Inc., 134 S. Ct. at 2129-30 (internal citations omitted).

AGREED TERMS

The parties have agreed to the following terms prior to the hearing. Dkt. 87-1 at 1.

Term	Agreed Construction
signalling data (claim 1)	information concerned with the control of communications
remote terminals (claims 1, 3 and 4)	communication devices at a location remote from the central controller
pair of predetermined signalling data channels (claims 1 and 4)	a forward signalling data channel and a reverse signalling data channel determined prior to establishing communications

With regard to one term the parties presented competing positions prior to the hearing but at the oral hearing the parties reached an understanding as to the issue in dispute. In particular,

the parties previously disputed the meaning of the term “establishing communications between said central controller and said plurality of remote terminals.” C-Cation proposed that the phrase should be given its ordinary meaning and does not require additional construction other than the agreed term “remote terminals.” Defendants proposed “establishing two-way connections between the central controller and two or more remote terminals so that user information can be transmitted and received.” Dkt. 87-1 at 3. In the briefing and the oral hearing, C-Cation’s primary objection focused on the inclusion of Defendants’ language “so that user information can be transmitted and received” as part of establishing communications. At the oral hearing Defendants emphasized that “establishing communications” must be something more than merely one side of the system attempting to communicate and Defendants stated that it did not mean to require user information to be actually sent. Dkt. 89 Oral Hearing Tr. at 100-102. C-Cation agreed that “establishing communication” required more than merely the controller sending a poll request but rather further required a response. Dkt. 89 Oral Hearing Tr. at 109-110. In this manner the parties agreed that merely sending a poll from a controller was not “establishing communication” but that a response was also required. Dkt. 89 Oral Hearing Tr. at 110. Based on the agreements at the oral hearing the court accepts the construction of “establishing communications” to mean “sending information and receiving a response.”

DISPUTED TERMS

A. Preamble Terms

“a shared transmission means for signalling data and user information” (claim 1 preamble)

C-Cation’s Construction	Defendants’ Construction
<p>As part of the preamble, term is non-limiting and needs no further construction.</p> <p>To the extent construction is deemed necessary: “a medium for transmitting signalling data and user information between a plurality of remote terminals and a central controller”</p> <p>Phrase should not be construed under 35 U.S.C. §112(6). If, however, construction under 35 U.S.C. §112(6) is deemed appropriate:</p> <p>Function: carry signalling data and user information</p> <p>Structure: includes: (1) airwaves; (2) coaxial cable; (3) fibre optic cable; or (4) wires</p>	<p>Function: carrying and transmitting information on signaling data and user information channels</p> <p>Structure: communication media common to a plurality of remote terminals having forward and reverse bandwidth onto which separate signaling data and traffic bearer channels are multiplexed in both the forward and reverse directions</p>

“user information” (claim 1 preamble)

C-Cation’s Construction	Defendants’ Construction
<p>As part of the preamble, term is non-limiting and needs no further construction.</p> <p>To the extent construction is deemed necessary, term should be given its ordinary meaning.</p>	<p>“information other than signalling data transmitted to or from users of the system”</p>

The parties dispute whether the terms are preamble terms that do not require construction.²

² If the terms are found to be a claim limitation, the parties also dispute the appropriate construction. As the Court finds that the terms are preamble limitations that are not claim limitations, the arguments regarding the appropriate construction are not reached.

Position of the Parties

C-Cation asserts that the preamble does not affect the steps of the claimed invention, the body of the claim describes the complete invention, and the preamble does not set out any aspect of the claim limitations. C-Cation asserts that in such circumstances the preamble is not regarded as limiting. Dkt. 80 at 8 (citing *Am. Med. Sys., Inc. v. Biolitec, Inc.*, 618 F.3d 1354, 1358-59 (Fed. Cir. 2010) and *Schumur v. Lab. Computer Sys., Inc.*, 308 F. 3d 1304, 1310 (Fed. Cir. 2002)).

Defendants assert that the claim begins “In a multiple access communication system comprising....” Defendants assert that the limitation in question is recited after the “comprising” term and thus the limitation is not part of the preamble but rather part of the body of the claim and thus a limitation. Dkt. 83 at 20. At the Oral Hearing, Defendants emphasized that when a claim uses the term “comprising” twice the preamble ends with the first use of “comprising.” Defendants cited *Microprocessor Enhancement Corp. v. Tex. Instruments, Inc.*, 520 F.3d 1367, 1375-76 (Fed. Cir. 2008) as holding that the first use of “comprising” ends the preamble.

Defendants assert that even if the terms were considered part of the preamble, the preamble is limiting because it provides antecedent basis for multiple other terms (“central controller,” “remote terminals” and “data channels”) in the body of the claim. Dkt. 83 at 20-21 (citing *C.W. Zumbiel Co., Inc. v. Kappos*, 702 F.3d 1371, 1385 (Fed. Cir. 2012)). Defendants assert that this thus is not a situation where “deletion of the preamble” would not affect the steps of the claimed invention. Defendants assert that in such circumstances the preamble is not superfluous. Dkt. 83 at 21.

Defendants assert that the ‘883 patent repeatedly emphasizes the importance of forward and reverse signalling data channels and traffic channels. 2:65-3:13, 5:8-24, 5:58-62.

Defendants assert that the “shared transmission means” carries all four of these channels. Defendants thus assert that the “shared transmission means” is the hardware recited in the ‘883 patent as necessary to perform the claimed method. Dkt. 83 at 21.

C-Cation cites to *Schumer*, 308 F.3d at 1310 and *Apple Computer, Inc. v. Articulate Sys., Inc.*, 234 F.3d 14, 17-18 (Fed. Cir. 2000) as finding that multiple uses of transitional phrases in a preamble does not mean the preamble ends after the first transitional phrase. Dkt. 85 at 1-2 (also citing *Enpat, Inc. v. Shannon*, 6:11-cv-00084-GAP-KRS, 2011 WL 6010441, at *6-9 (M.D. Fla. Nov. 30, 2011)).

C-Cation asserts that Defendants improperly assert that the entirety of a preamble must be limiting if any terms find an antecedent basis in the preamble. C-Cation asserts that such a theory has been rejected in other cases. Dkt. 85 at 2 (citing *LBS Innovations LLC v. BP Am. LLC*, Nos. 2:11-cv-00407-JRG and 2:12-cv-0735-JRG, 2013 WL 3187167 at 56-58 (E.D. Tex. Jun. 19, 2013) (Gilstrap, J.) (finding preamble not limiting even where it provided antecedent basis for some claim terms); *RMail Ltd. v. Amazon.com, Inc.*, No. 2:10-cv-258-JRG, 2013 WL 968246, at 99-103 (E.D. Tex. Mar. 11, 2013)(Gilstrap, J.).

In response to Defendants’ argument that the four types of channels described in the specification must be used, C-Cation notes that in *C-Cation v. Comcast* the Court found that the “[c]laim steps never recite nor rely on what particular medium is used to connect the controller and the terminals” and that “the vast majority of the specification focuses on aspects of managing signalling data channels.” *C-Cation v. Comcast* Order at 15-16.

As to user information, C-Cation asserts that the term “user information” only appears in the preamble in the longer phrase “a shared transmission means for signalling data and user

information.” As to whether “user information” is a preamble term requiring construction, both parties rely on the arguments regarding the longer phrase to support their respective positions.

Analysis

A preamble is properly considered a limitation of a claim:

if it recites essential structure or steps, or if it is ‘necessary to give life, meaning, and vitality’ to the claim. Conversely, a preamble is not limiting “where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention.

Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc., 239 F.3d 801, 808 (Fed. Cir. 2001). The Court’s analysis provided in the *C-Cation v. Comcast* Order is applicable:

...Where the deletion of the preamble phrase in question does not affect the structure or steps of the claimed invention, the phrase is not limiting. *Am. Med. Sys.*, 618 F.3d at 1358-59.

When the body of the ‘883 Patent claims in question are analyzed, the transmission means phrases do not affect the steps of the claimed methods. Here, the preamble merely recites the system environment in which the method steps may occur. A central controller, remote terminals and transmission means (the physical medium between the controller and terminals) are recited in the preamble. Notably, the claim steps never recite nor rely on what particular medium is used to connect the controller and the terminals. The claim then focuses entirely on the allocation of signalling data channels between the controller and the terminals. Thus, for instance claim 1 step (a) merely calls out establishing communication between the controller and the terminals such that signalling data channels are created between the controller and terminals, notably not including any limitations as to the particular physical medium used for the connection. The remaining portions of the claims focus on the assignment of, monitoring of, reassignment determination of and reassigning of signalling data channels....

...The transmission means in not included in the claim body, is not needed to give “life or vitality” to the claimed steps, and the claimed steps are drafted without including any limitations as to the particular physical transmission means.

Contrary to Defendants assertions, the specification does not underscore the importance of a transmission medium having separate user traffic and signalling channels. Though Defendants point to several citations to shared transmissions, the vast majority of the specification focuses on aspects of managing the signalling channels. Figures 3-15 and associated text. In addition, the described “objects of the invention” and the described “benefits” focus on the signalling channels. 2:35-61; 4:1-14.

C-Cation v. Comcast Order at 15-16.

Defendants provide several additional arguments not previously considered by this Court. Defendants' first additional argument is that the preamble is merely: "In a multiple access communication system." Though Defendants assert that *Microprocessor Enhancement Corp.* holds that the first use of "comprising" in a claim must be the end of a preamble, Defendants overstate the holding of *Microprocessor Enhancement Corp.* as that court did not address the specific implication of two uses of "comprising" and whether the preamble must end as a matter of law after the first "comprising." *Microprocessor Enhancement Corp.*, 520 F.3d at 1374-76. Rather, the holding of *Microprocessor Enhancement Corp.* related to a specific claim and to whether that claim impermissibly mixed apparatus and method limitations (which the Federal Circuit answered no). First *Microprocessor Enhancement Corp.* focused on the particular preamble in question which the Court characterized as "unconventional" for a method claim:

The drafting structure of claim 1 may be generally described as follows:

1. A method of executing instructions in a pipelined processor comprising:
[structural limitations of the pipelined processor];
the method further comprising:
[method steps implemented in the pipelined processor].

Id. at 1374. In contrast, the Federal Circuit noted that "method claim preambles often recite the physical structures of a system in which the claimed method is practiced." *Id.* Such preambles "state a purpose or intended use for the invention." *See Catalina Mktg.*, 289 F.3d at 808. The preamble of the '883 patent conforms with the more conventional method claim. First, there is no doubt that '883 patent claim 1 is a method claim. Defendants repeatedly characterized the claim as a method claim both in the briefing and at the oral hearing. Such characterization is not unexpected as the claim 1 structure makes this clear:

1. In a multiple access communication system comprising a controller, a shared transmission means for signalling data and user information , and a plurality of remote terminals, **a method of allocating...comprising the steps of:**

- (a)...
- (b)...
- (c)...
- (d)...
- (e)...

Claim 1. The claim structure makes clear that what is recited is a method claim and the transitional phrase between the “purpose or intended use for the invention” and the claimed invention elements is the “a method of allocating...comprising the steps of.” Claim 1 thus falls squarely within what *Microprocessor Enhancement Corp.* characterized as “method claim preambles often recite the physical structures of a system in which the claimed method is practiced.” *Microprocessor Enhancement Corp.*, 520 F.3d at 1374. This is in contrast to the “unconventional” method claim of *Microprocessor Enhancement Corp.* in which a first “comprising” referenced the method (“A method of executing instructions in a pipelined processor comprising:”) followed by a paragraph break and the body of the claim later included “the method further comprising the steps of...” A review of the totality of claim 1 of the ‘882 patent makes clear that the claim is a method claim with the method steps following the “comprising the steps of:” portion of the claim.

Defendants also cite to *C.W. Zumbiel Co.*, as supporting the proposition that if any terms find antecedent basis in the preamble then the entire preamble is a limitation. However, the court in *C.W. Zumbiel Co.* did not make such a ruling. *C.W. Zumbiel Co.*, 702 F.3d at 1385. In *C.W. Zumbiel Co.* the court found that “a plurality of containers” described in the preamble was referenced in the body of the claims as “the containers.” The Court thus found that the container limitations of the preamble were limitations of the claims. *Id.* That is not the case here. “Shared

transmission means” is not recited in the body of the asserted claims. The ‘883 patent preamble presents a very different situation. Though certain elements of the preamble may be limitations found within the body of the claim, the “shared transmission means” phrase is separate from those elements and is not “necessary to give life, meaning, and vitality” to the claim. *See Catalina Mktg.*, 239 F.3d at 808; *See also LBS Innovations*, 2013 WL 3187167 at 56-58 (entire preamble not limiting even where it provided antecedent basis only for some claim terms); *RMail*, 2013 WL 968246, at 99-103.

The Court finds that the terms “a shared transmission means for signalling data and user information” and “user information” are preamble terms that are not claim limitations and do not require construction.

B. “signalling data channel(s)” (Claims 1, 3 and 4)

C-Cation’s Construction	Defendants’ Construction
“channels used for carrying signalling data; the channels may also carry user traffic”	“channels used for carrying signalling data; the channels may also carry user data”

The parties dispute whether “user traffic” or “user data” may also be carried by the channel(s).

Position of the Parties

C-Cation asserts that the specification teaches that signalling data and traffic bearer channels are two types of channels that may be used to support forward and reverse direction communications between the central controller and remote terminals. C-Cation asserts that the specification states that:

As depicted in FIG. 2, the bandwidth is channelized for carrying traffic in the forward and the reverse direction. Data channels are used for carrying signalling or data traffic while bearer channels are used for carrying user traffic similar to circuits in telephony.

5:58-62.

Defendants assert that the specification states that signalling data channels may carry “sporadic user data.” 3:52-55, 7:32-49, 13:59-63. Defendants assert that the specification distinguishes “user data,” which is carried on a data channel such as a signalling data channel, from “user traffic,” which is carried on traffic bearer channels. 3:4-16, 5:15-26, 5:58-62, 13:59-63. Defendants assert that the specification passage cited by C-Cation supports this: “Data channels are used for carrying signalling or data traffic while bearer channels are used for carrying user traffic similar to circuits in telephony.” 5:58-62. Defendants assert that thus the ‘883 patent specification confirms that data channels do not carry user traffic. Defendants assert that this is an important distinction as C-Cation has emphasized that claim 1 is limited to signalling data channels. Dkt. 83 at 27 (citing C-Cation Brief, Dkt. 80 at 11).

In reply, C-Cation asserts that the term “user traffic” does not appear in the claims and there is no need to change the Court’s previous construction. Dkt. 85 at 3. C-Cation asserts that Defendants make a false assumption that signalling data channels “do not carry user traffic.” C-Cation asserts that the specification does not distinguish “user data” from “user traffic.” Rather C-Cation asserts that the specification passages relied on by Defendants (3:4-16, 5:15-26, 5:58-62, 13:59-63) merely distinguish signalling data on one hand from user data or user traffic on the other hand. Dkt. 85 at 3-4.

Analysis

The specification does not create the distinction between “user data” and “user traffic” as sought by Defendants. The specification does include “[d]ata channels are used for carrying signalling or data traffic while bearer channels are used for carrying user traffic similar to circuits in telephony.” 5:58-62 (emphasis added). Also, some of the claims reference “transmitting user traffic or signalling data on said communication channels.” However, elsewhere the specification refers to the additional information carried on the signalling data channels as “user data.”

The controlled multiple access method is used, on each forward signalling data channel in parallel, for sporadic user data transfer or signalling purposes. 3:52-55, *See also* 7:41-43.

The signalling information or sporadic user data... . 13:8-13; 13:17-19.

Sporadic user data shares the RF data modulator and demodulator with signalling information... . 13:59-63.

The specification does not provide a distinction between what Defendants allege are two different types of information: “user data” and “user traffic.” Defendants argue that there are differences in what is done with the user information (carried on different channels), but as to what is the actual meaning of “data” vs. “traffic”, Defendants have not identified any difference in the information. The specification provides no distinction between the content of “user data” and “user traffic.” Furthermore, the parties have not pointed to any ordinary meaning that establishes a difference between the terms. In the context of the specification, one skilled in the art would recognize that the terms are used interchangeably.

The Court construes “signalling data channel(s)” to mean “channels used for carrying signalling data; the channels may also carry user traffic.”

C. “is available” (Claim 1, step (e))

C-Cation’s Construction	Defendants’ Construction
Phrase should be given its ordinary meaning and does not require additional construction.	“capable of carrying signaling data”

The term “is available” is part of a longer phrase for which the parties also assert competing constructions: “determining whether a different and suitable signalling data channel is available.” As to “is available,” the dispute focuses on whether the term refers to a channel having particular characteristics being in existence or whether the term relates to a channel being capable of carrying data.

Position of the Parties

C-Cation asserts that the term “is available” is clear on its face. C-Cation asserts that Defendants’ construction would limit the term to a determination as to whether a channel has failed or not. C-Cation asserts that this would render meaningless other claim limitations, in particular the “suitable” claim limitation. C-Cation asserts that as the conditions monitored include more than mere failure, Defendants’ construction is improperly limiting and should be rejected. Dkt. 80 at 25. C-Cation asserts that in context of the larger phrase, whether a different and suitable channel is “available” merely means whether a different and suitable channel is in existence. Dkt. 85 at 8.

Defendants assert that “is available” is a highly subjective term that different persons skilled in the art may come to different conclusions about whether a particular channel “is available.” Dkt. 83 at 17-18. Defendants assert that the ‘883 patent specification however

provides a definition: whether the signalling data channel is capable of carrying signalling data. 8:35-41, claim 5.

Analysis

The claim and the specification passage by Defendants do not support Defendants' construction. Defendants' construction limits "available" to whether or not a channel can carry traffic. However, the passage cited by Defendants (8:35-41) describes an analysis based on a determination of a number of factors including the number of terminals using the signalling data channel, the traffic requirements, past collision counts, channel error status and bandwidth of the signalling data channel. In light of the specification, availability is not as limited as sought by Defendants. Moreover, the claim language of the larger phrase provides the context of the use of "available." *Phillips*, 415 F.3d at 1314 ("the context in which a term is used in the asserted claim can be very instructive"). The term "is available" is found in the language "determining whether a different and suitable signalling data channel is available." Thus, the claim language itself provides guidance to the other channel: whether something that is "different and suitable" is in existence. In the context of the entire phrase, "available" is used in the context of merely being present for use. Defendants' arguments and specification citation, if applicable, are more relevant to the dispute regarding "suitable." In context of the claim language and specification, the term "is available" merely takes on its plain and ordinary meaning.

The Court construes "is available" to have its plain and ordinary meaning.

D. “Different and Suitable” Terms

“determining whether a different and suitable signalling data channel is available” (Claim 1, step (d))

“reassigning by said central controller said remote terminal to a different and suitable signalling data channel” (Claim 1, step (e))

C-Cation’s Construction	Defendants’ Construction
Phrase should be given its ordinary meaning and does not require additional construction.	<p>“different and suitable” is indefinite under 35 USC 112§2.</p> <p>If not indefinite, the parties agree the reassigning term should be given its ordinary meaning.</p>

The primary issue in dispute is whether “suitable” is definite.

Position of the Parties

C-Cation asserts that in context “suitable” is not a term of degree. Rather, C-Cation asserts all that is required in step (d) is a determination as to whether a channel is “suitable” based on a condition previously monitored in step (b). Dkt. 80 at 24. C-Cation asserts that the existence of a threshold of a monitored condition is all that is required. C-Cation asserts that one does not have to find a specific threshold as to what those skilled in the art find to be “suitable.” Dkt. 80 at 24. C-Cation asserts that as taught in the specification a “suitable” channel could be a channel that has spare capacity, as indicated in dependent claim 5. C-Cation asserts that this matches the specification which states that several factors could be used to determine availability of a channel including “the number of remote terminals using the signalling data channel, the traffic requirements, past collision count, channel error status, and bandwidth.” 8:35-39.

Defendants assert that whether a particular channel is “suitable” epitomizes the type of claim term that depends on the unpredictable vagaries of any person’s opinion. Defendants assert a particular channel could be deemed “suitable” by one person and the same channel

deemed not “suitable” by another. Dkt. 83 at 14. Defendants assert that the term “different and suitable” is not found in the specification and neither the specification nor prosecution history give guidance as to what is “different and suitable.” Defendants assert that C-Cation has not pointed to any objective standard by which a person skilled in the art can determine whether a channel is “suitable” or not. Dkt. 83 at 15. As to the cite of 8:35-38, Defendants assert this passage relates to “availability,” not whether a channel is “suitable.” Defendants note that the claim uses both terms indicating these are different concepts: “determining whether a different and suitable signalling channel is available.”

As to claim 5, Defendants assert that claim 5 recites sensing for spare capacity and allocating a new channel if no other channel has spare capacity. Defendants assert that it is not clear from claim 5 whether sensing for spare capacity relates to determining whether a channel is “available” or whether the sensing relates to determining whether a channel is “suitable.” In any case, Defendants assert that an objective standard as to what is “suitable” is not provided.

Defendants assert that C-Cation’s assertion that all that is required is the existence of a threshold of the monitored condition still does not resolve the indefiniteness because it is based on the subject opinion of the individual allegedly practicing the invention. Dkt. 83 at 16 (citing *Datamize*, 417 F.3d at 1350). Defendants assert that under C-Cation’s definition any time a new channel is selected, regardless of the reason, it will be necessarily “suitable” because all that is required is some threshold in the opinion of the user that the channel is sufficient. Dkt. 83 at 17.

In reply C-Cation asserts that Defendants focus on one word without considering the context of the surrounding claim language as required in *Phillips*. Dkt. 85 at 8 (citing *Phillips*, 415 F.3d at 13-14 (“[T]he context in which a term is used in the asserted claim can be highly instructive.”)). C-Cation asserts that in context “suitable” is not used as a term of subjective

degree that requires a numerical value. Rather, C-Cation asserts that the “suitable” is used in context to mean fit for its intended reason - thus free from the particular reason or parameters. Dkt. 85 at 8. C-Cation asserts that dependent claim 5 makes this clear as it teaches that a “suitable” channel is a channel with spare capacity.

Analysis

The issue presented focuses upon the context of the use of “suitable.” The question before the Court is the meaning of the claim phrase in its entirety, not the meaning of “suitable” outside of the surrounding claim language. *See Phillips*, 415 F.3d at 1314 (the claims themselves may provide substantial guidance in determining the meaning of particular claim terms). In context, the claim phrase is clear that a numerical construction of specific parameters is not required. Rather in the context of the entire claim phrase, the claims merely require a particular determination regarding the signalling channel. One can objectively establish that such determination has been made, where the determination is based on a different and suitable channel being available, without requiring objective numerical limits for a particular suitability factor. In this context the claim merely recites that a determination of suitability is made and the claim does not require establishing a particular parameter or level for what a user would determine to be suitable. Defendants assert indefiniteness is further supported because C-Cation’s construction would encompass any change to a new channel. However this is not the case. Rather, the claims require a determination that a different and suitable channel is available. The claim scope does not include changes made absent such a determination regarding the other channel.

Further, the specification provides additional context as to what it means for a suitable channel to be available:

The determining factors of signalling data channels availability include the number of remote terminals using the signalling data channel, the traffic requirements, past collision count, channel error status, and bandwidth of the signalling data channel. These factors will be calculated for each of the existing signalling data channels in consideration of the specific group mapping as depicted in FIG. 3. If there are signalling data channels in the forward and the reverse direction, the registering remote terminal will be assigned to the group. If there is no available signalling data channel already in use, the central controller will check for available channel from the pool of transmitters and/or the pool of receivers, and proceeds with allocation if there is available channel from the pool (or a pair in case that neither the forward nor the reverse signalling data channels are available). If the signalling data channel is available, the central controller will complete the registration process by commanding the remote terminal to tune to the assigned channels.

8:35-53. Though Defendants assert that this passage relates to “available” it is clear that this passage describes “the determining factors of signalling data channels availability.” The passage is not a definition of “available” but describes the determining factors. These determining factors provide context to the claimed phrase of “determining whether a different and suitable signalling data channel is available.” The specification also conforms to dependent claim 5 which recites that “said step of determining” includes sensing other signalling data channels for spare capacity.

Together the claims and the specification provide a reasonable certainty as to the meaning of the claim entire claim phrase in question. This conclusion is confirmed by the extrinsic evidence. Defendants’ expert also acknowledged that “there are a myriad of other possible criteria that could be used for the determination of “suitability” (e.g., existence of additional channels, the physical medium of the channels, etc.).” Dkt. 83-4 at 14. Thus, even Defendants’ expert acknowledged that one skilled in the art would recognize various factors that could be used to determine suitability. In context of the claim, the specification and level of skill of one in the art it would be recognized that a variety of factors could be used to determine “suitability” and the claim is not limited to a particular factor or numerical limit. The Court finds

that the terms in context provide reasonable certainty as required under *Nautilus* as to the claim scope.

The Court finds that the terms “determining whether a different and suitable signalling data channel is available” (Claim 1, step (d)) and “reassigning by said central controller said remote terminal to a different and suitable signalling data channel” (Claim 1, step (e)) are not indefinite and require no further construction.

E. “monitoring the status of a plurality of the signaling data channels in use...for the usability of said signalling data channels (Claim 1, step (b))

C-Cation’s Construction	Defendants’ Construction
“monitoring at least two of the signalling data channel being used for one or more conditions that affect the usability of the signalling data channel”	Defendants assert no construction is necessary for the longer phrase.
For the term “usability of said signalling data channels”: Phrase should be given its ordinary meaning and does not require construction.	Defendants construe: “the usability of said signalling data channel” Indefinite.
To the extent construction is deemed necessary: “one or more determining factors of availability of said signalling data channels”	If Court rejects indefiniteness: “the receipt of an expected response to a message sent by the central controller to a specific remote terminal”

The parties dispute whether “usability” is definite. The issues presented regarding the “usability” of the channels in use is similar to that presented above with regarded to the “suitability” of the different signalling channels to which a terminal may be reassigned.

Positions of the Parties

C-Cation notes that its construction conforms to the *C-Cation v. Comcast* Order and that the Court found that “usability” is not limited to whether a channel has failed or not and the term

“usability” does not need further construction. *C-Cation v. Comcast* Order at 33-34. C-Cation asserts that the term “usability” is not a term of degree requiring objective boundaries. C-Cation asserts that the claim language surrounding “usability” must be considered. C-Cation asserts that step (b) merely states that one or more factors relating to the usability are monitored. C-Cation asserts that step (b) does not, therefore, involve a qualitative determination, but rather defines the types of parameters monitored. Dkt. 80 at 19. C-Cation cites to the specification for examples of parameters that could be monitored relating to “usability:”

At any time, the central controller can initiate the terminal re-assignment process if deemed appropriate for the varying traffic demand or other system dynamics.

The determining factors of signalling data channels availability include the number of remote terminals using the signalling data channel, the traffic requirements, past collision count, channel error status, and bandwidth of the signalling data channel.

8:32-39.

C-Cation also points to dependent claim 3 which states that the monitoring for the usability step includes the steps of “calculating the aggregate traffic load,” “monitoring past collision count,” “monitoring the transmission error count,” and “sensing the status ... for failure.” C-Cation asserts that in view of the specification, the language of claim 1 and the language of dependent claim 3, a person of skill in the art would understand that step (b) requires tracking one or more conditions related to the “usability” of the signalling data channels.

C-Cation also objects to Defendants’ alternative construction as reading limitations into the claim. C-Cation asserts that Defendants’ construction requires the monitoring to establish if a channel is available or not available. C-Cation asserts that the specification, in contrast, teaches that the monitoring and determinations can be based on weighing a variety of factors to determine the desirability of reassignment: “For example, channel arrangement can be adjusted

according to traffic pattern mix and/or more intelligent management scheme can be implemented with various priority lists.” 8:35-41.

Defendants assert that “usability” is subjective on its face and does not have an ordinary meaning. Defendants assert that whether a particular data channel is “usable” depends on the opinions of the person making the determination. Dkt. 83 at 5-6. Defendants note that the Court previously stated that usability implies “a continuum of determinations of usability.” *C-Cation v. Comcast* Order at 33-34. Defendants assert that under *Interval Licensing* courts must look to the intrinsic record to see if an objective definition can be given. *Interval Licensing*, 766 F.3d 1364, 1369-71 (Fed. Cir. 2014). Defendants assert that thus under *Nautilus* and *Interval Licensing* there must be some objective way of determining the boundaries for this “continuum.” Defendants assert that “usability” is not found in the specification and “usable” is found in only one passage:

As depicted in FIG. 5, the central controller in the command mode sends the message destined for a specific remote terminal. Normally only the addressed remote terminal will respond to the command, therefore, there is normally no need for collision processing except for transmission error. **If the expected response is not received at the central controller from the addressed terminal after the time-out period expires, the central controller assumes that either FD-x or RD-x' channel is not usable by the addressed remote terminal.** In this case, the central controller retries for a number of times, then proceeds with the terminal failure processing if there is still no response from the specific remote terminal. The terminal failure processing removes the failed remote terminal from the group and signals to the wide area network that connection is not possible.

8:1-15 (emphasis added). Defendants assert that the passage above provides the only intrinsic evidence as to “usability.”

Defendants assert, however, that this passage creates a definition in tension with dependent claim 3. Defendants assert that when faced with a similar situation in which one potential objective definition based on the specification was not fully consistent with the claims

the Federal Circuit found that “[t]he hazy relationship between the claims and the written description fails to provide the clarity that the subjective claim language needs.” *Interval Licensing*, 766 F.3d at 1372.

Defendants assert C-Cation is legally wrong in arguing that because “usability” is not a term of degree an objective boundary is not required. C-Cation asserts that every term in a claim is required to have objective boundaries, not just terms of degree. Dkt. 83 at 7 (citing *Interval Licensing*, 766 F.3d at 1371 and *Datamize*, 417 F.3d at 1350).

Defendants further assert that the specification passages cited by C-Cation do not reference “usability” or “usable,” but rather, are related to the term “available.” Defendants assert that the ‘883 patent discusses usable in one paragraph (8:1-15) and in a separate paragraph discusses the factors that affect available (8:35-40). Defendants assert that this is consistent with the distinct use of “usability” and “availability” in the claims. Dkt. 83 at 8. Defendants further assert that even if C-Cation’s intrinsic evidence related to usability, the passages only provide examples of parameters that could be monitored relating to “usability” as opposed to providing objective boundaries as to “usability.” Defendants assert that under *Nautilus* just because some meaning can be ascribed to a term does not mean that the term is definite. *Nautilus*, 134 S.Ct. at 2130.

Defendants also cite to the expert testimony of both parties. Dkt. 83 at 5-6, 9-10. Defendants object that C-Cation’s expert testimony relates to a subjective determination based on the intent of the user. Dkt. 83 at 9. Defendants assert that under C-Cation’s approach any parameter can be one that affects the usability of the channel if a user uses that parameter to make a usability decision. Dkt. 83 at 9-10.

In reply, C-Cation asserts that claim terms cannot be construed in isolation and that the surrounding claim language must be considered. Dkt. 85 at 5-6. C-Cation asserts that when read in context the term is not subjective. C-Cation asserts that *Interval Licensing* found that the term in that case was “purely subjective.” *Interval Licensing*, 766 F.3d at 1370-71 (“The key claim language at issue in this appeal includes a term of degree (‘unobtrusive manner’)” and finding the claim phrase is “purely subjective”).

C-Cation asserts that in context the phrase simply requires monitoring the channels for parameters relating to usability and this information can then be used in the step (c) and step (d) determinations. C-Cation asserts that exemplary embodiments provided in the specification are sufficient to avoid a finding of indefiniteness under *Nautilus*. Dkt. 85 at 6-7 (citing *FlatWorld Interactives LLC v. Samsung Elecs. Co.*, C.A. No. 12-804-LPS, 2014 U.S. Dist. LEXIS 178653, at *33-35 (D. Del. Dec. 31, 2014) (finding the term “class” “sufficiently definite to guide those skilled in the art to its successful application, even though there may be an infinite number of classes that could be designed” and also that “listing every possible image class” is not necessary) and citing *Invensys Sys. v. Emerson Elec. Co.*, 6:12-cv-799; 2014 WL 3884165, at 11 (E.D. Tex. Aug. 6, 2014) (Davis, J.) (finding the term “system disturbance” not indefinite where the patent provided several examples of “system disturbance”)).

C-Cation also cites to Defendants’ expert as acknowledging that persons of ordinary skill in the art know that certain parameters relate to usability, including parameters such as latency and signal error. Dkt. 85 at 7 (citing Defendants’ Br. Ex. 4 at ¶32). C-Cation asserts that its own expert testified that one of ordinary skill in the art would recognize which parameters to implement for monitoring. Dkt. 85 at 6, n. 9.

Analysis

When viewed in the context of the entire claim phrase, the claims do not require a user's subjective determination as to what is "usable." Defendants in affect seek a construction that requires setting a particular limit as to whether a channel is usable or not. However, the claim term in its entirety merely requires monitoring "usability" and does not require setting a specific limit on usability factors but rather just monitoring parameters that affect usability. In context of the specification a variety of parameters may be chosen by the user for monitoring. Thus, objectively the claim merely requires that the user monitors usability factors. Though in *C-Cation v. Comcast* indefiniteness was not argued, some of the underlying argument regarding this term was similar and the Court noted:

C-Cation's construction conforms to the factors determining channel availability listed in the specification. 8:35-39. Immediately preceding that passage the specification states: "[a]t any time, the central controller can initiate the terminal re-assignment process if deemed appropriate for the varying traffic demand or other system dynamics." 8:32-34. Determining reassignment in claim step (c) is the step that follows the claimed "monitoring" step. In context of the claim steps and the specification, it is clear that monitoring may include monitoring a variety of factors. Defendants' construction could be interpreted to imply that usability means that a channel is either available or not available. Defendants are correct that there is a passage 8:1-14 that focuses on whether or not a connection is possible. However in the context of the intrinsic record as a whole, the monitoring of the channels appears to also include more complex determinations that may weigh a number of factors to determine the advisability of reassignment. 6:54-57, 8:35-41. In such circumstances, usability would imply more of a continuum of determinations of usability. Thus, the patent does not teach that a channel is reassigned only when a channel condition precludes use. Rather, a number of factors are evaluated and based on the multiple factors a decision to reassign may occur. Defendants' construction limits the monitoring to determine whether channel use is precluded or not. This conflicts with some of the specification embodiments. Furthermore, Defendants construction of claim 1 would eviscerate the various types of monitoring explicitly included in claim 3, a claim that was present when the usability limitation was added to claim 1. More particularly, Defendants' construction reduces the four types of monitoring in the

steps of claim 3 to only the last step in which a channel use failure is sensed. In context of the claims and the intrinsic record “usability” is not limited to whether the channel has failed or not. Thus, the Court rejects Defendants’ attempt to limit usability to a condition that “precludes those channels from communicating.” Having rejected Defendants’ narrow interpretation of “usability” the Court finds that the term “usability” does not need further construction.

C-Cation v. Comcast Order at 27-28. Though a number of factors may impact usability and there may be a continuum of the analysis of such factors, the fact that the channels are monitored for usability can be objectively established without requiring a subjective determination as to how a particular user balances the various factors to set a particular threshold of usability. The claim language, in contrast merely requires monitoring for usability. Dependent claim 3 further makes clear that claim 1 merely requires monitoring for usability rather than setting particular subjective thresholds for usability. In particular, claim 3 recites that the “monitoring...for usability” step may further include “calculating the aggregate traffic load,” “monitoring the past collision count,” “monitoring the transmission error count,” and “sensing the status of said...channels in use for failure.” Further, the specification provides guidance as to the variety of factors that may be considered.³ 8:15-8:55; 6:54-57. Thus, the claims themselves and the specification provide a reasonable certainty as to the scope of the claim phrase.

Moreover, the extrinsic evidence from C-Cation’s and Defendants’ experts shows that one skilled in the art would have an understanding that various factors would affect usability. Plaintiff’s expert testified that one skilled in the art would understand what factors would reasonable to be monitored. Dkt. 85 Ex. 3 at 11-25. Further, Defendants’ expert testified that depending upon system requirements and applications various factors would be recognized to be

³Defendants make much of the differences between the “usability” of a channel in use and the “suitability” of a new channel that a terminal may be reassigned to. However in context of the specification as a whole, factors affecting both the current channel and the different new channel would be recognized to include common factors. 8:15-8:55.

relevant to usability. Dkt. 83 Ex. 4 at 10. In context the claim merely requires monitoring factors that would impact usability, not the identifying the level of a particular factor that one skilled in the art would find as usable or not. In light of the intrinsic and extrinsic evidence the claims provide the reasonable certainty required under *Nautilus*.

The Court construes “monitoring the status of a plurality of the signaling data channels in use...for the usability of said signalling data channels” (Claim 1, step (b)) to mean “monitoring at least two of the signalling data channels being used for one or more conditions that affect the usability of the signalling data channels.”

F. “determining whether one of said plurality of remote terminals needs to be reassigned” (Claim 1 step(c))

C-Cation’s Construction	Defendants’ Construction
Phrase should be given its ordinary meaning and does not require additional construction.	No construction proposed other than for “needs to be reassigned:” Indefinite under 35 USC 112§2. If not indefinite: “reassignment is required because the channel is unable to carry additional signalling data”

The primary issue is whether the use of term “needs” is indefinite.

Position of the Parties

C-Cation notes that the Court in *C-Cation v. Comcast* found that the term did not need construction. C-Cation asserts that Defendants read the phrase “needs” in isolation and out of context of claim 1 as a whole. Dkt. 80 at 21-22. Similar as to “usability,” C-Cation asserts that in the context of the claim usage, “needs” is not a term of degree. C-Cation asserts that all that is required in step (c) is the existences of a threshold of a monitored condition to indicate that a need exists. C-Cation asserts that the claim has no requirement as to what that threshold must

be. C-Cation asserts that the specific threshold value need not be found but only the existence of a threshold based on a condition monitored in step (b) is sufficient.

C-Cation asserts that its construction is supported in the specification which teaches that the claimed determinations can be complex and weigh many factors: “For example, channel arrangement can be adjusted according to traffic pattern mix and/or more intelligent management scheme can be implemented with various priority lists.” 6:54-57. C-Cation also points to dependent claim 4 which provides more detail as to the step (c) determining step, including “sensing the status of said predetermined signalling data channel ... for overloading...” and “sensing the status of said predetermined signalling data channel ... for failure... .” C-Cation asserts that claim 4 adds two factors that may be used to determine if a channel needs to be reassigned but others may be used for claim 1. Dkt. 80 at 22-23. C-Cation further objects that Defendants’ alternative construction limits the “need” determination to just whether the channel has failed or not. C-Cation asserts that Defendants’ construction is contradicted by claim 4.

Defendants assert that determining whether something “needs” to be reassigned is a purely subjective determination. Dkt. 83 at 11 (citing expert declaration). Defendants assert that the Court previously found that

In the context of the patent, it is clear that a channel that “needs” to be reassigned is not limited to a completely failed channel that can provide no communication for a particular remote terminal, but could also result from something less than a complete failure, such as from traffic demands, past collision counts, bandwidth, etc. that impact the desirability of a channel...

C-Cation v. Comcast Order at 30. Defendants’ cite to their expert’s declaration to assert that there is no explanation as to how to determine what level of past collision counts or bandwidth usage creates a “need” for reassignment. Dkt. 83 at 11. Defendants assert that “needs to be reassigned” does not appear in the specification and that “reassignment” only appears three

times: 8:16-17, Figure 6, 8:32-34. Defendants assert that these passages provide no meaningful details about the reassignment process and no objective measure as to what amounts to a “need” for reassignment. Dkt. 83 at 11.

Defendants assert that claim 4 does not provide any objective standard but rather just criteria that may create a need for reassignment. Defendants assert that although claim 4 provides specific examples of situations that may create a need for reassignment, the term does not inform a person of skill in the art the boundaries of “needs to be reassigned” such that the term can be objectively applied in all circumstances and for all criteria. Dkt. 83 at 12.

Defendants assert that C-Cation fails to cite to any intrinsic evidence that deals with “reassignment,” let alone the need for reassignment. As to the passage at 6:54-57 (“channel arrangement can be adjusted according to traffic pattern mix and/or more intelligent management scheme ...”), Defendants assert this passage relates to Figure 2 which “shows the channelization of the communication bandwidth of the shared transmission media” (4:26-27). Defendants assert this describes the structure and set up of the shared transmission means of the preamble and has nothing to do with channel reassignment. Dkt. 83 at 12. As to the passage at 8:35-41 (“determining factors of availability”), Defendants assert this passage discusses Figure 6 which makes clear that assessing the availability of a channel is distinct from, and occurs after, a determination that reassignment is needed. Dkt. 83 at 12.

In reply, C-Cation reiterates the same argument as it asserted with regard to the “usability” limitation: that Defendants are focusing on the term outside of the context of the surrounding claim language. C-Cation asserts that in context the “needs” is not a term of degree, rather part of the step that requires the existence of a threshold based at least in part on a parameter monitored in step (b). Dkt. 85 at 7. C-Cation asserts that while Defendants

acknowledge the step requires a threshold, it is improper for Defendants to require guidance necessary to determine the specific value to set the threshold. C-Cation asserts that neither the claim language nor specification warrants such a narrow construction. Dkt. 85 at 8.

Analysis

The analysis regarding the step (c) phrase (“determining...needs”) is similar to that described above with regard to the step (b) phrase (“monitoring...usability”) and step (d) phrase (“determining whether...suitable”) and much of the same rationale discussed above applies to the step (c) dispute. Defendants again seek to avoid the context of the term in question as used within the claim. To support its indefiniteness argument, at the oral hearing Defendants asserted for the first time that step (c) of the claim was not related nor tied to step (b) of the claim. Dkt. 89 Oral Hearing Tr. at 51-52. However, all parties have acknowledged that step (c) relates to step (b) (C-Cation asserting that step (c) is performed after steps (a) and (b) and Defendants asserting that the claim language requires step (c) to be performed after step (b)). Dkt. 80 at 28; Dkt. 83 at 29-30. The relation of the two steps is clear not only from the claim language but from the specification which describes the reassignment determination being based upon the monitoring of various channel factors. *See* Figure 6, 8:15-55. In this context the claim describes monitoring the usability of the channels and determining if a remote terminal needs to be reassigned. In context, the claim merely requires that a determination be made that a need exists. The limitation does not create a subjective requirement regarding a particular factor and particular level of that factor. Such an understanding is also counseled by claim 4 which states that the “determining whether...needs” step comprises sensing for overloading and sensing for channel failure. Such factors are factors which could cause a need for reassignment. However, the claim does not require a particular level of overloading as would be sought by Defendants.

In context of the claim phrase in its entirety, the phrase provides reasonably certainty under the *Nautilus* standard.

As to Defendants' alternative construction, the analysis of in prior *C-Cation v. Comcast* dispute is relevant as to whether "needs" to be reassignment only occurs when a channel is unable to carry the data. The relevant portion in the *C-Cation v. Comcast* Order stated:

The "needs" dispute is similar to the dispute with regard to the "monitoring" step (discussed above) which precedes the determining step. The rationale and specification passages cited above with regard to monitoring are equally persuasive with regard to the determining step. In context of the patent, it is clear that a channel that "needs" to be reassigned is not limited to a completely failed channel that can provide no communication for a particular remote terminal, but could also result from something less than a complete failure, such as from traffic demands, past collision counts, bandwidth, etc. that impact the desirability of a channel. Moreover, Defendants' construction would render claim 4's overload sensing step meaningless (similar to claim 3 with the monitoring step). A channel that is overloading may be slow, have poor quality, etc. However, Defendants have not pointed to anything in the intrinsic record that would limit an overloaded channel to being a channel that can provide no communication of any kind for a particular remote terminal. Having determined that "needs" is not limited to a complete failure in which no communication can be provided, the Court finds that the term needs no further construction and its ordinary meaning should be applied.

C-Cation v. Comcast Order at 30-31. The Court thus rejects Defendants' position that a need to reassign only exists if a channel is unable to carry additional data.

The Court finds that "determining whether one of said plurality of remote terminals needs to be reassigned" (Claim 1 step(c)) is not indefinite and its ordinary meaning applies.

G. “said predetermined signalling data channel” (Claim 1, step (c)) / “said predetermined channel” (Claim 1, step (d))

C-Cation’s Construction	Defendants’ Construction
“one of the signaling data channels in use” or “one of the pair of predetermined signalling data channels”	Indefinite

The parties dispute whether the term is indefinite for a lack of antecedent basis.

Position of the Parties

C-Cation asserts that the Court addressed this precise question in the *C-Cation v. Comcast* Order at 41-44. C-Cation asserts that a lack of antecedent basis does not render a claim invalid when one skilled in the art can understand the claim. C-Cation also asserts that the antecedent basis can be present by implication. Dkt. 80 at 26 (citing *Energizer Holdings, Inc. v. Int’l Trade Comm’n.*, 435 F.3d 1366, 1370-71 (Fed. Cir. 2006)). C-Cation asserts that it is clear that the “said predetermined signalling channel” and “said predetermined channel” both refer to any one of the channels that comprise the recited “a pair of predetermined signalling data channels” in step (a). C-Cation notes that the parties do not dispute that the “pair” of channels includes a forward and reverse signalling data channel. C-Cation asserts that it is thus reasonably ascertainable that the terms in dispute refer to one of the previously recited “pair of predetermined signalling data channels.” Dkt. 80 at 27. C-Cation asserts that step (a) establishes communications on a pair of predetermined channels (“each of said remote terminals being initially assigned to a pair of predetermined signalling data channels”) and that the determining steps (c) and (d) would be understood to relate to the forward or reverse channels to which the remote terminal was initially assigned in step (a).

C-Cation also cites to the specification as making this understanding clear:

If there is no available signalling data channel already in use, the central controller will check for available channel from the pool of transmitters and/or the pool of receivers, and proceeds with allocation if there is available channel from the pool **(or a pair in case that neither the forward nor the reverse signalling data channels are available)**.

8:44-50 (emphasis added). C-Cation asserts that *Nautilus* only requires “the certainty which the law requires in patents is not greater than is reasonable, having regard to their subject matter. *Nautilus*, 134 S.Ct. at 2129.

Defendants assert that the prior Court ruling was issued before *Nautilus*. Defendants assert that steps (c) and (d) are unclear as to which of the pair “said” refers to. Dkt. 83 at 18. Defendants assert that there is no certainty as to whether “said” refers to both of the predetermined signalling data channels. Dkt. 83 at 19. Defendants also object that C-Cation has not even adopted the prior Court construction as C-Cation removes the word “predetermined.” Dkt. 83 at 19.

Analysis

Though the ruling in *C-Cation v. Comcast* was issued before *Nautilus*, the rational is still applicable because when viewed in context of the claim language itself and the specification there is a reasonable certainty as to the antecedent basis. The discussion in the *C-Cation v. Comcast* Order is still relevant under the *Nautilus* standard:

...The claim language refers in element (a) to each terminal “initially assigned to a pair of predetermined signalling data channels.” Subsequently in elements (c) and (d) the determining steps are described with regard to a single channel: “determining whether... needs to be reassigned to a different signalling data channel” and “determining whether a different and suitable signalling data channel is available.” In both cases, claim elements (b) and (c) end with the reference “other than said predetermined signalling data channel.”

In the context of the claim language it is clear that a determining step is being done with regard to a single channel and that channel is one that is other than the earlier recited pair of predetermined signalling data channels. The specification passage at 8:45-50 describes checking for the availability of a single channel. Further, the specification describes an alternate case where two channels

are checked if neither forward nor reverse channels are available. Likewise when determining factors of availability, the “factors will be calculated for **each** of the existing signalling channels.” 8:35-41 (emphasis added). Thus, the specification also provides support for C-Cation’s position that one of the channels is being referenced.

C-Cation v. Comcast Order at 43-44 (emphasis in original). The claims themselves and further the claims in context of the specification provide certainty as to the meaning of “said predetermined signalling channel” and “said predetermined channel.”

The Court construes “said predetermined signalling data channel” (Claim 1, step (c)) / “said predetermined channel” (Claim 1, step (d)) to mean “one of the pair of predetermined signaling data channels”

H. Order of Claim Steps (Claim 1)

C-Cation’s Construction	Defendants’ Construction
<p>The steps of claim 1 are not required to be performed in any particular order except that:</p> <p>Steps (c) and (d) must be performed after steps (a) and (b); and</p> <p>Step (e) must be performed after all other steps.</p>	<p>The steps of claim 1 ((a) through (e)) are ordered in sequence.</p>

The primary position disputed in the briefing and oral argument is whether step (b) of claim 1 has to necessarily be performed after step (a). Dkt. 89 Oral Hearing Tr. at 113.

Positions of the Parties

C-Cation asserts that the claim has some inherent order limitation but not all steps must be performed in order. As an example C-Cation asserts that there is no requirement that monitoring of signalling data channels (step (b)) begin after all the remote terminals are assigned in step (a). C-Cation asserts that more logically a central controller would constantly monitor

the channels in use and constantly establish communications with terminals that are joining or rejoining the network while those channels are monitored. Dkt. 80 at 28. C-Cation asserts that claim order should be rejected unless it is imposed by the language of the claims or required by the specification. Dkt. 80 at 29 (citing *Altiris Inc. v. Symantec Corp.*, 318 F.3d 1363, 1371 (Fed. Cir. 2003)).

Defendants assert that step (b) refers to monitoring “the status of a plurality of the signalling data channels in use.” Defendants assert that “the” signalling data channels has antecedent basis in the step (a) channels - the channels on which communications are established. Defendants assert that as a matter of logic step (a) must occur before step (b). Defendants assert that the step (b) reference to “in use” further reinforces that “the” data channels are the channels of step (a) as a channel is only “in use” when it is used to establish communications. Dkt. 83 at 30.

Defendants also assert that the specification confirms that communications are established prior to channels being monitored. Defendants assert that Figure 6 depicts the “logic flow diagram for the registration, channel allocation, terminal assignment and reassignment process.” 4:37-39. Defendants assert that in Figure 6 the “signalling process” that leads to “reassignment” that corresponds to steps (b)-(e) occurs only if a terminal is not registering. Figure 6. Defendants assert that this means that “signalling processing” (including monitoring) is performed only once communications have been established. Dkt. 83 at 30.

In reply, C-Cation asserts that nothing in the claims require every remote terminal to seek to join the network simultaneously or that no other remote terminals are connected and operating before “communications are established” with the plurality of remote terminals. Rather, C-Cation asserts that it would be logical that remote terminals may be connected to a network that

the central controller has been periodically monitoring already, and that a plurality of additional remote terminals may seek to join the network at a later time. Dkt. 85 at 10.

C-Cation asserts that the specification contemplates this exact scenario. C-Cation asserts that in discussing Figure 6 the specification teaches that when a “newly registering terminal” seeks to join the system (8:20-33), one factor that the central controller may check is “the number of remote terminals using the signalling data channel” (8:35-37). Thus, C-Cation asserts that the channel may be monitored prior to registering the new remote terminal. Dkt. 85 at 10. C-Cation also points to the specification teaching that a remote terminal that was once part of a network could seek to rejoin the network. 8:25-30. C-Cation also asserts that the specification teaches that the system is designed for growth. 3:35-38. C-Cation asserts that requiring the monitoring (step (b)) only after all remote terminals have joined the system makes no sense. Dkt. 10 85 at 10.

At the oral hearing Defendants made clear that its construction is not meant to, and does not, preclude the concept of dropping remote terminals and then subsequently rejoining those terminals. Further Defendants made clear that they are interpreting the claims as “comprising” claims and thus their construction does not preclude additional monitoring before the establishing. Rather Defendants asserted that their construction only requires that there be monitoring after the establishment of communications. Dkt. 89 Oral Hearing Tr. at 117, 121-122. Further Defendants emphasized that the monitoring is monitoring “the” signalling data channels used between “said” controller and “said” remote terminals. Defendants asserted that “the” and “said” are used to reference the signalling data channels, controller and terminals used in the establishing communications in step (a). Defendants therefore asserted that C-Cation appears to seek to avoid the antecedent basis of the claim and allow the monitoring to be

performed on wholly different channels, controllers and terminals then the channels, controller and terminals referenced in step (a). Dkt. 89 Oral Hearing Tr. at 114-15.

Analysis

As a general rule method claims are not mandated to be performed in the step order listed in the claims absent requirements of such order in the specification or the surrounding language of the claims themselves. *Interactive Gift Express, Inc. v. Compuserve, Inc.*, 256 F.3d 1323, 1342-43 (Fed. Cir. 2003) (“unless the steps of a method actually recite an order, the steps are not ordinarily construed to require one. However, such a result can ensue when the method steps implicitly require that they be performed in the order written.”).

Defendants assert that the claim language itself mandates that the channels be established and monitoring follow. However, the claim language itself does not require such. Rather, the claim language only requires that the data channels that are monitored are “in use” between said controller and said plurality of remote terminals. As agreed to by the parties, “establishing communications” between the controller and terminals requires sending and responding between the controller and the terminals. Dkt. 89 Oral Hearing Tr. at 110. The claim language of claim (b) does not require “monitoring the established communications” rather it merely requires monitoring the channels “in use” between the controller and the terminals. A channel “in use” may be something less than a channel that has established communications. For example Figure 4 of the specification describes a polling processing using the signalling channels between a controller and remote terminals. Figure 4, 7:50-8:15. In such embodiments the signalling channels may be “in use” (initializing and sending polling transmissions on the signalling data channels between the controller and the remote terminals) prior to completing the establishment of communications. The specification thus teaches uses of the signalling data channel that are

something less than established communications. As the claim language does not mandate the ordering of the steps as sought by the Defendants, the step (a) need not be performed before step (b). *See Interactive Gift Express*, 256 F.3d at 1342-43.

As to Defendants concern that the channels, controller and terminals over which communication is established may be wholly different from those monitored, the claims themselves resolve this concern. Step (a) requires establishing communications between “**said** central controller and **said** plurality of remote terminals via a plurality of signalling data channels.” (emphasis added) In step (b) antecedent basis for each of “**the** signalling data channels,” “**said** central controller” and “**said** plurality of remote terminals” is found in the elements recited in step (a). The claims themselves provide the linkage between the elements that are used in the establishing and monitoring steps. Thus for example, the claims do not allow for untethered “monitoring” of channels of one set of terminals and communications “established” for a wholly different set of terminals. Such linkage does not however mandate a step order.

The Court finds that step (b) of claim 1 does not necessarily have to be performed after step (a) of claim 1.

I. CONCLUSION

The Court adopts the above constructions. The parties are ordered that they may not refer, directly or indirectly, to each other’s claim construction positions in the presence of the jury. Likewise, the parties are ordered to refrain from mentioning any portion of this opinion, other than the actual definitions adopted by the Court, in the presence of the jury. Any reference to

claim construction proceedings is limited to informing the jury of the definitions adopted by the Court.

It is SO ORDERED.

SIGNED this 18th day of April, 2015.



ROY S. PAYNE
UNITED STATES MAGISTRATE JUDGE